



## ATTACHMENT A

### Remarks

By this Amendment, the title has been changed to provide a better identification of the invention. In the claims, various clarifying corrections have been made in independent claims 1 and 2. It is submitted that the present application is in condition for allowance for the following reasons.

In the *Claim Rejections - 35 USC § 112* section of the outstanding Office Action, independent claims 1 and 2 were rejected for being indefinite. By this Amendment, claims 1 and 2 have been similarly changed in order to overcome the noted problems as needed and as follows (with reference as well to the specification which more fully explains the invention).

- It will be appreciated that the “establish a first fixed point” step is accomplished with knowledge of about where the approximate elliptic curve and its axes will be. The first fixed point is then provided along an extension of the minor axis of the approximate elliptic curve, in order to draw the first (and typically largest) circular segment or arc. Thus, the examiner’s objection to having a reference to the elliptical structure yet to be made is now avoided.
- What is meant by the “farthest end point of the minor axis” is now made clear by the above noted change. It will be appreciated that the first fixed point is on an “extension” of the minor axis, so that the farthest end point therefrom is still on the minor axis but at the opposite end of the minor axis (where the approximate elliptic curve will begin, that is from which point the first curve is drawn).

- While no “drawing” implement is claimed, it is submitted that those of ordinary skill would have no hesitation in choosing an appropriate drawing mechanism (either physical or electronic) and performing the noted drawing steps. Thus, no specific drawing implement need be claimed.
- While the points chosen are arbitrary, it is evident from the disclosure that it is well within the skill of those of ordinary skill (who would have at least some architectural expertise) to select the arbitrary points and angles to effect a suitable approximate elliptical structure, with the points and angles chosen depending on the degree of accuracy with which the ideal elliptical curve (or quadrant part thereof) is to be approximated by the drawn elliptical curve. It will also be appreciated that the points and angles are not totally arbitrary as the examiner suggests. These points and angles, as well appreciated by those of ordinary skill, are defined first with respect to an extension of the minor axis, and thereafter by being defined along the subsequently produced straight line segment (see the specification for full details of this process). The specification also provides guidelines to those of ordinary skill, so a  $0^\circ$  angle and those angles equal to or greater than  $90^\circ$  are obviously non-applicable in the performance of the claimed method; while those angles between  $0-90^\circ$  would obviously be chosen as noted above depending on the accuracy desired/needed for the arc being drawn in that angle.
- It will also be noted that the independent claims now more particularly recite that a quadrant is being drawn using arcs of a circle as the examiner properly interpreted.

In view of the above and the (similar) changes made to claims 1 and 2, it is submitted that claims 1-4 are now all definite so that the rejection under § 112 should now be withdrawn.

In the *Claim Rejections - 35 USC § 102* section, independent claims 1-2 together with dependent claims 3-4 were rejected under 35 USC § 102 as being anticipated by the Langelaan patent. However, for the following reasons, it is submitted that these claims are allowable over this reference.

In the Action, the examiner says that " Langelaan teaches a method for designing an elliptical structure which is symmetrical about the major axis and the minor axis thereof, and has an outline of an approximate elliptic curve, comprising the steps of approximating the shape of the elliptical curve using successive arcs of segmented circles (col. 1, line 50 to col. 2, line 62)." However, the Langelaan patent is a computer graphic system for modeling parametric objects having accurate elliptical segments. Thus, the Langelaan patent is not the same as the present invention which is concerning with approximating an elliptic curve using circular segments or arcs.

In particular, it will be noted that the Langelaan patent discloses the invention therein as follows.

In the data receiving sub-system 20 .... The object origin is used in conventional programs to locate the objects in the Cartesian coordinate system of the computer data base. A geometric origin 100 (FIGS. 5 to 8) of the elliptical segments is calculated and a translation vector from the object's origin to the geometric origin is calculated and stored. This will be used, if necessary, to ensure the modified object is correctly located in the Cartesian coordinate system. The geometric origin 100 of the segmented elliptical section is located at an intersection of coordinating planes 80 (FIG. 5) of the radial elements and the major and minor axis 110, 120 of the elliptical tangential elements. [See column 5, lines 14-34.]

FIG. 5 is an illustration of the relative location of a geometric origin 100 of a rotated elliptical section which comprises **elliptical segments** S1 and S2 which is part of a rectangular object 101. Also shown are the major radius 110 and the minor radius 120. A linear radial coordinating surface is shown as 80. Coordinating margins are shown as R1 and R2 for segments S1 and S2 respectively. [Emphasis added. See column 5, lines 36-42.]

The present invention as noted in the specification and recited in claims 1 and 2 is a method of connecting circular segments to provide an approximate elliptic curve. The locus of a circle is determined depending upon the center and the radius, and thus a circular segment can be easily drawn. Therefore, connecting circular segments to generate an approximate elliptic curve makes the design and drawing of "approximate" elliptical structure substantially more efficient and provides feasible means for constructing approximate elliptical structures.

It will thus be appreciated that the Langelaan patent does not disclose the present invention. In particular, as shown in FIG. 3 of the present application, an elliptic outline ( $B_1$ ) approximating a complete outline (B) is created by connecting circular segments ( $d_1$ ) - ( $d_4$ ) to one another directly. In this context, for example, the point ( $P_1$ ) provides a point where a first tangent line segment ( $k_1$ ) at the end of first circular segment ( $d_1$ ) forms a right angle with the first straight line segment ( $L_1$ ); in other words, an angle  $\gamma_1$  at the point ( $P_1$ ) is 90 degrees.

In contradistinction, for example, the Langelaan patent denotes which angles of vertices 93, 94 are not right angles (see Fig. 14).

Also, in the present invention, as shown in FIG. 4, an elliptic outline ( $B_2$ ) can be formed by connecting circular segments ( $d_{10}$ ) ( $d_{30}$ ) to one another.

For the foregoing reasons, it is submitted that the Langelaan patent does not teach nor even suggest the above-mentioned features of the present invention as claimed in independent claims 1 and 2. Therefore, independent claims 1 and 2, and claims 2-4 dependent therefrom, are all clearly allowable over the Langelaan patent.

The remaining references which were cited but not applied have been reviewed but are not believed to be pertinent to the patentability of the present invention.

For all of the foregoing reasons, it is submitted that the present application is in condition for allowance and such action is solicited.